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ABSTRACT

This research investigation focused on a middle school interdisciplinary team of teachers in an attempt to understand how such an arrangement, as an aspect of school organization, has the potential to influence teacher interactions and the classroom practices of teachers. Major sources of data were the interactions among participant teachers as observed during various times of the school day, observations of these teachers in their classrooms while teaching, and interviews. The findings revealed that classroom practices such as curriculum planning, delivery of instruction, evaluation of student performance, and behavior management were influenced by the collaborative nature of teacher interactions with one another. These findings were congruent with the theory base for the study that teachers' attitudes, cognitions, and beliefs are socially constructed and maintained through daily organizational life. Implications based on this analysis are offered for middle school organization, the implementation of teaming as school innovation, and teacher preparation programs. (Author)

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TEACHER COLLABORATION

THE EFFECTS OF INTERDISCIPLINARY TEAMING ON TEACHER INTERACTIONS AND CLASSROOM PRACTICES

Paper Presented at the 12th Annual Meeting

MID-WESTERN EDUCATIONAL RESEARCH ASSOCIATION

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ABSTRACT

Teacher Collaboration: The Effects of Interdisciplinary Teaming on Teacher Interactions and Classroom Practices

This research investigation focused on a middle school interdisciplinary team of teachers in an attempt to understand how such an arrangement of teachers, as one aspect of school organization, has the potential to influence teacher interactions and the classroom practices of teachers. Major sources of data were the interactions among participants observed during various times of the school day, observations of these teachers in their classrooms while teaching, and interviews. The findings revealed that classroom practices such as curriculum planning, delivery of instruction, evaluation of student performance, and behavior management were influenced by the collaborative nature of teacher interactions with one another. These findings were congruent with the theory base for the study that teachers' attitudes, cognitions, and beliefs are socially constructed and maintained through daily organizational life. Implications based on this analysis are offered for middle school organization, the implementation of teaming as a school innovation, and teacher preparation programs.

INTRODUCTION

The degree to which the organizational structure of most schools foster teacher recourse to others' knowledge and experience and to shared work discussion is marginal at best. Social organizational theorists who have investigated the social structure of schools have consistently found that the bureaucratic, "cellular" (individual classrooms) structure of schools creates a situation where teachers work in isolation from their colleagues. The consequences of this isolation are teachers who lack a shared technical culture of teaching, are deprived of the professional help and support of their colleagues, and are plagued by feelings of uncertainty about their ability to improve student learning (Cohen, 1981; Feiman-Nemser & Floden, 1986; Goodlad, 1984; Little, 1982; Lortie, 1975; Rosenholtz, 1989).

The interdisciplinary (interdisciplinary) team, an innovation of the 1960's, has gained recognition as an organizational arrangement having the potential to substantially reduce the isolation of teachers. The term interdisciplinary teaming refers to a plan for the organization of teachers in which teachers from different subject areas are organized in groups of approximately four with a range from two to seven with an assigned common area of the school plant, a common schedule, and the responsibility for a common group of students. Teachers are expected to work together and to share their resources to provide a

broadened range of learning opportunities for children (Schmuck & Runkel, 1985). In theory, teachers on an interdisciplinary team work collectively for all or a significant part of the instruction of the same group of students. Collective responsibility and collegial decision-making were at the heart of this innovation (Shaplin, 1964).

Although there is evidence in the research literature that teaming is associated with increased interaction and interdependent work relationships among teachers (Cohen, 1981; Cohen & Bredo, 1975; Little, 1982; Rosenholtz, 1989), it is suggested that results be interpreted with caution due to the complexity and variability of interdisciplinary teams that exist in practice (Cohen, 1981; George, 1984). While most interdisciplinary teams share the same group of students and schedule, for instance, it cannot be assumed that all teachers on the team have a common planning time or occupy the same area of the building. Other, more human factors considered essential for the successful operation of a team include interpersonal communication skills, a willingness to think like a member of the group, cooperative attitudes, and a professional commitment to teaming (George, 1984). Investing oneself in a group of professionals rather than demanding the total individual interdependence teachers are accustomed to, however, is not an automatic outcome of teaming. The flexibility, spontaneity, and adaptability necessary to work effectively when in a small group,

are behaviors that most teachers have not learned due to lack of training and experience.

PURPOSE OF STUDY

The rationale for this study was generated from an increasingly active line of research which has addressed, from the broadest perspective, the relationship between school organizational arrangements and teacher outcomes (Goodlad, 1984; Little, 1982; Lortie, 1975; Rutter, 1979; Schulman, 1986)). In particular, the impetus for this study grew out of an interest in understanding how an interdisciplinary team arrangement of teachers, as one aspect of school organization, has the potential to influence teacher interactions. The study is also based on the need to know the extent to which these interactions impact on the classroom behaviors of teachers.

RATIONALE

Current educational reformers have called for the restructuring of schools to include a more collaborative work setting for teachers. Goodlad recommends schools-within-schools with interdisciplinary teams of teachers responsible for the same group of students as a means to facilitate more individualization and intimacy in the learning process and more peer teaching. Boyer (1983) recommends the organization of schools into smaller units for the purpose of establishing a more cohesive and supportive social setting for both teachers and students. The

Carnegie Council on Adolescent Development (1989) calls for middle school reforms which parallel the recommendations of earlier reports to create smaller learning environments within the school. In addition, the Carnegie Council recommends forming teachers and students into interdisciplinary teams in order to, among other things, provide a much-needed support group for teachers and eliminate the isolation teachers can experience in middle school departmentalized settings.

While reform recommendations have called for the reorganization of schools into smaller units of interdisciplinary teams, they have not, however, provided the necessary guidelines for schools to follow during the implementation process of this effort. As a result, many schools have reorganized into interdisciplinary teams with little knowledge or understanding of the conditions and skills necessary for a team of teachers to function as teams are theoretically suppose to function. This is not a surprising phenomena as the knowledge available on the intricacies of teaming is very limited.

The middle school, the target level of schooling for this study, provides another dimension of context and rationale for research in the area of team interactions and teacher outcomes. During the 1960's, the middle school, a grade level reorganization which usually consists of grades 6-8 or 5-8, was introduced as an organizational structure to replace the traditional junior high school (grades 7-9). During the conceptualization of the middle school, an interdisciplinary team

organization was proposed to replace the departmentalized structure of the junior high school. This team arrangement was considered to be a more appropriate plan for students between the ages of 10-14 because it was believed to facilitate articulation from the self-contained elementary school classroom to the departmentalized, subject area teaching characteristics of the high school (Alexander, Williams, Compton, Hines, Prescott, & Kealy, 1965). More recently, the concern over discontinuity in expectations and practices among teachers, the lack of integration of subject matter, and the instability of young adolescent peer groups has provided an impetus for educational policy makers to promote the interdisciplinary team organization as a means to plan and deliver more meaningful curriculum and create a climate of community and shared educational purpose among teachers and students (Carnegie Council, 1989). As junior highs continue to reorganize their programs and practices according to the middle school concept, research-based knowledge regarding the special nature and demands of the collaborative interdisciplinary team arrangement is needed to help close the gap between what teams can do theoretically and what teams actually do in practice.

METHODOLOGY

Description of Site and Participants

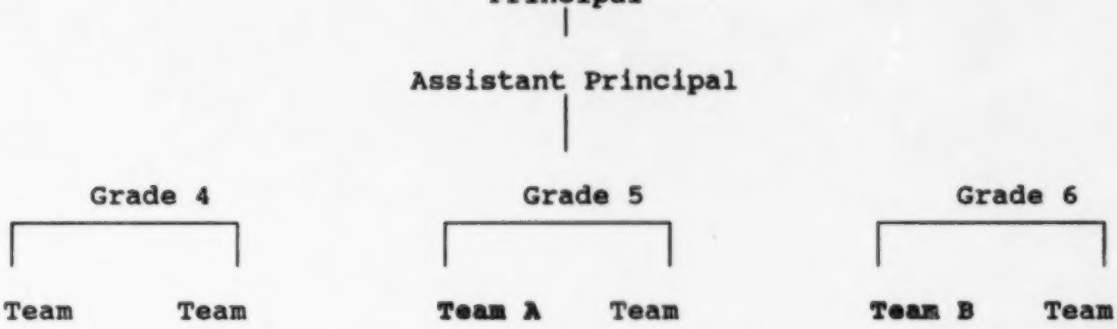
Two of six teams in the same school building were selected as the focus of the study. These teachers were selected according to the following criteria:

1. established teams in the sense that the teachers are accustomed to working on a team
2. a minimum of one year of teachers working on the same team with the same individuals
3. a common planning time for all teachers on the team
4. a common daily schedule for all teachers on the team
5. close proximity of the four teachers' classrooms on the team

The first two criteria were established in order to reduce the impact that variables associated with initial experiences of working on a team and working with individuals for the first time may have on the interactions of teachers. The last three criteria, although not absolute necessities, were important as they adhere to what theory suggests about teaming and would be helpful in an attempt to study the interactions which occur among teachers.

Figure 1 shows the organizational structure of the school. One fifth grade team (Team A) and one sixth grade team (Team B) were the focus of this study. These two teams are composed of four teachers and approximately 100 students. Two of the teachers on each team teach social studies, language arts, and math and the other two teachers teach science, language arts, and math.

Figure 1



This middle school, which is located in a suburb of a large metropolitan area in the midwest, serves grades 4-6 and is an open space school. The racial composition of the student body is 53% white, 42% black, 1-2% second or third generation Appalachian, and 3% other. According to the socioeconomic predictors provided by the State Department of Education's annual report, approximately 25% of the students qualify for a free or reduced lunch plan. Another 20% of the students are from homes with $200,000 incomes.

Data Collection

Major sources of data were the observed interactions among teachers on one interdisciplinary team (Team A) during various times of the school day, observations of these teachers in their classrooms while teaching, and interviews. Primary observations of teacher interactions were conducted during the teachers' individual planning period, during the team's common planning time, and during lunch time. The role of the researcher was that of participant observer during all periods of observation.

Both informal and formal interviews were conducted with teachers on Team A and Team B. Teachers on Team A were informally interviewed following periods of classroom observation to gather information necessary for determining whether or not the classroom practices observed were a result of the teacher's interactions with others on the team. A formal interview was conducted with all four teachers on this team simultaneously to gather information about teacher interactions and the impact of these interactions on their classroom practices. Teachers on the second team studied were interviewed in an attempt to learn more about how the interdisciplinary team arrangement has the potential to facilitate the development and teaching of interdisciplinary curricular units. A written record was kept of all observed phenomena and audio-tapes of interviews were summarized and partially transcribed through the use of a wordprocessing program.

RESULTS

The findings revealed that the interdisciplinary team arrangement fostered norms of collaboration among the teachers studied. Moreover, it was discovered that the classroom practices of teachers on a team were influenced in various ways by the collaborative nature of their interactions with one another.

Teacher Interactions

The current findings suggest that the interdisciplinary team arrangement strongly influences teacher interactions. For the team that was studied, these interactions were of a collaborative

nature and resulted in sources of support ranging from personal to collegial. The teachers on Team A were continually observed in interactions with one another during individual and team planning periods and during lunch time talking with one another about the instruction, evaluation, and management of a common group of students. Dialogue about specific students and specific plans and beliefs related to the instruction of those students occurred on a very regular, daily basis. Collaborative efforts were devoted to making decisions regarding the socialization, discipline, instruction, and evaluation of the team's students, discussing related beliefs and practices, and sharing sentiments about work-related issues.

Although the majority of time was spent interacting about professional matters related to such technical aspects of teaching as instructional planning and delivery, curriculum planning, and the behavioral management of students, Team A viewed the personal support rendered by team members as vitally important to them in accomplishing the tasks of their daily work. Sharing personal problems and work related frustrations provided a source of moral support to teachers which helped to ease burdens created by the day-to-day responsibilities of teaching.

The teachers on Team A and this researcher attribute the frequency and nature of their interactions to the interdisciplinary team structure. Each teacher affiliated herself with a team of teachers connected by the common responsibility for the instruction, management, and evaluation of the same students. Factors that occur in the context of the school's interdisciplinary organizational structure which

contributed to the development and maintenance of active teacher collaboration include shared responsibility for the same group of students, the same daily schedule of teachers, the close proximity of classrooms, and the teaching of the same subject areas by two or more teachers. Other factors that seemed to contribute are interpersonal in nature and include the adaptability, flexibility, and spontaneity of teachers. In addition, each teacher was professionally committed to teaming and was therefore willing to work cooperatively as a member of a group as opposed to demanding the high degree of independence which is the norm for teachers who teach in a traditional, self-contained classroom. That teachers on this team shared very similar philosophies about the education of their students and had similar standards and expectations for their own accomplishments as well as the progress of their students were noted as other variables which facilitated collaboration on this team.

Relationship Between Teacher Interactions and the Classroom Practices of Teachers

The classroom practices of teachers in this study appeared to be related to the character of collegial interactions in a number of ways. Regular daily contact with other teachers who shared instructional responsibility for the same group of students facilitated talk about students and instructional technology which often caused teachers to reflect about alternative methods of instructing, evaluating, helping, and disciplining students or affirmed the use of current methods.

Two or more teachers having responsibility for teaching the same subjects was noted as a major factor for collaboration among teachers which resulted in the joint planning of content, teaching approaches, instructional activities, and student evaluation. The two teachers who taught social studies and the two teachers who taught science consistently planned and consulted with one another about the teaching of these subjects. The pairs of teachers teaching the same subject learned how to more effectively deliver instruction and socially manage students by sharing instructional successes and problems they encountered. Although all four teachers taught language arts, reading, and math, they did not collaborate as extensively on the instruction of these subject areas as they did with the instruction of science and social studies. The teachers reported the reason for this to be that students are ability grouped for language arts, reading, and math, whereas they are heterogeneously grouped for science and social studies. One implication to consider by this reported phenomena is that ability grouping may have the tendency to reduce the amount of collaboration among teachers who teach the same subject areas.

In addition to influencing instruction and curriculum within the same subject areas, the interactions of teachers on the interdisciplinary team studied inspired the integration of content across subject areas in two different ways. Communication between team members and teaching the same students engendered a situation in which shared knowledge of the content others on the team are teaching was commonplace. It became automatic for teachers to connect the various disciplines when

opportunities arose to show their relationships. interdisciplinary units of instruction was the second way that teachers on a team integrate different subject areas. The teachers on Team A planned one such unit in which social studies, reading, math, and science content was organized around a social studies theme. The teachers on Team B annually planned and taught four interdisciplinary units, one each quarter, that integrate two or more content areas.

IMPLICATIONS

Theoretical Implications

The theoretical framework for the study is that a school's organizational structure and social context create conditions which influence teachers and their teaching. According to this perspective, the attitudes, cognitions, and beliefs of teachers are socially constructed and maintained through daily organizational life as a result of recurrent interactions between school norms or faculty norms and individual beliefs and behaviors. Many social organizational theorists who have tested this theory have discovered that the "cellular" (individual classrooms and teaching) structure of schools create norms of isolation among teachers and an individualistic conception of practice (Feiman-Nemsen & Floden, 1986; Goodlad, 1984; Lortie, 1975). Research on norms which influence the interactions between teachers has revealed that norms of uncertainty which make teachers reluctant to share problems of instruction or to ask for help can be attributed to the isolated nature of teachers

work (Feiman-Nemser & Floden, 1986; Johnston, et al, 1988; Rosenholtz, 1989).

Research on interdisciplinary teaming, however, has shown that this organizational structure of schools is likely to *precipitate increased interactions* and interdependent work relationships among teachers. Moreover, it has been found that the increased interdependence among teachers has the potential to enhance the instruction of teachers.

Evidence from this study is consistent with the social constructivist theory and supporting research. The findings revealed that the interdisciplinary team arrangement fostered norms of collaboration among the teachers studied. In addition, it was discovered that the classroom practices of teachers were influenced as a result of their collaborative interactions. Norms of uncertainty which prevail among teachers who teach in self-contained classrooms did not exist with the teachers in this study; help was sought from one another on a regular basis and instructional problems were discussed freely.

Implications for Middle School Organization

The findings from this study suggests that the interdisciplinary arrangement of teachers can serve as a connecting base for teachers to work collaboratively when a number of conditions are met. Factors which accounted for the highest degree of interdependence demonstrated by the teachers on the team studied were the shared responsibility for the same group of students, the same schedule with common times for planning, and the planning of instruction for common subjects by

the same teachers. Those responsible for structuring the responsibility of teachers and making scheduling decisions for a team should take into consideration the potential of these factors to increase collaboration and influence the instructional practices of teachers. Teacher competence in skills such as adaptability, flexibility, ability to work cooperatively with others, and professional commitment to teaming are interpersonal factors which enhanced the degree of collaboration among teachers in this study and should be recognized as potentially helpful to teachers as they adjust to interdisciplinary teaming. Administrators and staff responsible for reorganizing a school into interdisciplinary teams of teachers or increasing the effectiveness of existing teams need to address the question of how classroom teachers with learned, conditioned behavior patterns and developed belief systems about working in isolation can be helped to acquire the knowledge, skills, and attitudes necessary for a team of teachers to operate as a group instead of four separate individuals.

Implications for Teacher and Administrator Education

Institutions of higher education have traditionally prepared teachers and administrators to work autonomously within the school work environment. Preservice teachers are trained to plan lessons, teach their subjects, evaluate students, and manage the classroom behavior of students by themselves; collaboration with fellow teachers to accomplish these tasks is a condition of teaching seldom addressed by teacher education programs. Principals are trained for the responsibility of making decisions

about student and teacher groupings, curriculum, and scheduling without the input of teachers; participatory decision making where collaboration between administrators and teachers is the norm and delegating the responsibility of making such decisions to teacher teams are practices which many administrators are not accustomed to nor are they skilled in.

The current national trend is for elementary schools, and middle schools in particular, to exhibit increasing formal collaboration and cooperation among staff. Certification and degree programs in the fields of teacher education and school administration which do not prepare teachers and school administrators for this collaborative work environment are no longer acceptable. Traditional preservice teacher education and school administration programs must be changed to ensure that they deliver the knowledge, develop the professional and interpersonal skills, foster the positive attitudes, and instill the feelings of confidence necessary to work in schools where collaboration is the norm.

Implications for Research

Although there has been a substantial increase in the number of middle schools nationwide that have reorganized into interdisciplinary teams of teachers over the past 20 years (Alexander & McKewin, 1989), very little is actually known about the outcomes and potential benefits of interdisciplinary teaming for teachers. Additional qualitative and quantitative studies are needed to reveal and understand the relationships between

interdisciplinary teaming and teaching. The following questions to be addressed by further research emerged from this study:

- Do the attitudes/beliefs teachers have about curriculum, students, and instruction correlate with membership on a particular team within a school?
- Do practices of teachers related to curriculum use, instructional approaches, and evaluation and behavioral management of students correlate to membership on a particular team within a school?
- Does teaming produce homogeneity of instruction?
- What internal teacher-teacher dynamics actually result in interdependent work relationships?
- How much of the interaction and collaboration among team members involves such low level concerns as the scheduling of events as opposed to higher level concerns such as solving problems of instruction?
- To what degree does collaboration increase a teacher's sense of efficacy?
- What are the mechanisms that exist for shared pedagogy among teachers on the same team?
- To what degree does professional learning occur among teachers on an interdisciplinary team as a result of teacher interactions?
- What are the specific attributions shared by teachers of their students and how do these attributions shape instructional practices?

SUMMARY

Many schools are adopting the recommendations of policy makers to reorganize their schools and programs according to the middle school concept as evidenced by the following nationwide trends:

1) increasing numbers of junior highs that are reorganizing their programs and practices according to the middle school concept.

2) increasing numbers of middle schools/junior highs that are reorganizing into interdisciplinary teams of teachers.

The increasing number of states who are legislating middle school training and certification of teachers and administrators indicates the degree of support for the reform recommendations. Those responsible for implementing these reforms will benefit by research-based knowledge and understandings related to the nature of teacher interactions and the relationship between teacher interactions and classroom practices. Such knowledge and understandings are necessary to help close the gap between what interdisciplinary teams are expected to and actually do in practice.

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